University of Maryland  
Masters in Applied Economics Program  
Economics 642 – Topics in Applied Macroeconomics  
Winter 2019/20

Instructor: Kerk L. Phillips  
Telephone: 801 310-8456  
Email: kerkphil@umd.edu  
Office Hours: T 6:00 – 6:30; 9:30 – 10:00  
Lectures: T 6:45 – 9:30, with a 15-minute break at some point between 7:45 and 8:30

Teaching Assistant: TBA  
TA office hours: TBA

Course prerequisites: Admission to the UMD Master's in Applied Economics Program  
Note that this includes a B or better in introductory courses in microeconomics, macroeconomics, and calculus.


Software: This course is heavily computational. You will need access to the following:

- **Microsoft Excel** or some other spreadsheet program
- **Python** – We will be doing much of our numerical modeling using Python which can be downloaded for free. I recommend you get the Anaconda version from Continuum Analytics. The url for the site to download this version is [https://www.continuum.io/downloads](https://www.continuum.io/downloads).

Course Objectives: This course builds a basic toolset for examining modern mathematical macroeconomic models. The emphasis is on dynamic modeling, which can be done with a variety of models. The roots of all serious macroeconomic models lie in microeconomic theory and we will spend a great deal of time developing these tools of “micro foundations” in a dynamic context. In addition to these modeling tools, macroeconomics relies on statistical tools from time-series econometrics. Econ 588 is not a prerequisite for this class, but we may draw from the material you encountered in Econ 388.

Macroeconomics tackles three major areas of inquiry: economic growth, economic fluctuations, and monetary economics. In each case, however, the basic toolset is much the same and the issues are similar. We will introduce this basic toolset and look at how they can be used to address a variety of issues.

The Applied Economics program has 7 general learning outcomes for students:

1. **Ability to understand, evaluate and analyze economic data**  
2: Ability to understand and interpret statistical evidence from economic data  
3: **Ability to apply empirical evidence to assessing economic arguments**  
4: **Ability to apply macroeconomic theories to policy discussions**  
5: Ability to apply microeconomic theories to policy discussions  
6: **Ability to communicate economic ideas to a broader audience**  
7: Ability to evaluate the effectiveness of policy programs using sound economic techniques

The learning outcomes that pertain to this course are: 1, 3, 4, and 6, with particular emphasis on outcomes 4 and 6.

In this class we will develop models to explain the performance and structure of the economy as a whole in both the long and short run. These models will provide a set of tools to understand the determinants of gross domestic product, inflation and unemployment and the effects of monetary and fiscal policies on these variables. By the
end of the course you should be able to analyze the economic effects of government policies and identify and interpret key leading and lagging economic indicators.

The course will do this by introducing concepts and the tools you need to find and appropriately transform data to meet the needs of your analysis. It will teach you how to use numerical tools such as Python and Excel to analyze data and to simulate macroeconomic responses to unexpected events and to policy changes. The grading section below explains how your understanding will be evaluated.

Grading will be based on homework, weekly online discussion participation, a final exam, and a project with an in-class presentation. I will use the following weights when calculating final grades:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Weekly Online Discussions</td>
<td>10%</td>
</tr>
<tr>
<td>1st Midterm Exam</td>
<td>25%</td>
</tr>
<tr>
<td>2nd Midterm Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Project / Presentation</td>
<td>20%</td>
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</table>

**Lectures:** As this is a master’s level class, you will be expected to have gone carefully through the readings before each lecture. I will spend little time reteaching that material. Instead, lectures will focus on answering any questions about the material and illustrating ways to apply the concepts numerically on a computer using Excel, Python, and other resources. I am assuming that you have a basic grasp of Excel or equivalent spreadsheet, and that you have no previous exposure to Python. One of the objectives of this course is that you become proficient in using Python to do macroeconomic analysis.

Lectures will be split into two session of roughly 75 minutes each with a 15-minute break in between.

I will be out of town the week of Christmas, so the lecture scheduled for Christmas Eve will be given on Saturday, December 21st at a time that works well for the majority of the class (tentatively from 9:00 a.m. to 11:45 a.m.).

**Homework:** One homework set per week will be due. Your two lowest scores will be discarded. This will give a total of nine graded homework sets. I will average these scores and weight this as 20 percent of your final grade. You may cooperate on homework assignment, but each student must turn in a unique write-up. Our teaching assistant, will grade the homework sets using keys that I will provide. Many of the homework problems will require the use of numerical techniques in Excel and/or Python. The early homework sets are easily completable in Excel, but as we proceed through the course you will find that Python becomes a necessary tool for later homework sets. You will find the homework sets challenging, but very relevant to applying the concepts from the textbook. A significant amount of lecture time will be allocated to discussing strategies for completing the homework assignments.

**Midterm Exams:** There will be two exams given in class. The first will be in the second half of the evening on Tuesday, January 7th and the second will be Tuesday, February 18th. These exams will be graded by the TA and myself. The questions will be divided up between the two of us and each will grade all of the questions in our portion of the exam to ensure consistent grading. The second exam will cover the material only from the second half of the course.

**Project / Presentation:** Sometime during weeks 2 through 12 you will need to make a 10-minute presentation in class. I will have you sign up for dates in advance to make sure that these are fairly evenly spread over the semester. You will be expected to respond to a Q&A as part of the presentation. Your presentation should present the research question for your project. It is not expected to be a finished project. Your presentation should be related to the lecture topics assigned for that day. A final version of your report is due the final week of class. I will be grading the written reports for content and clarity. Your score will be based equally on the quality of your presentation and the quality of your paper.

**Online Discussions:** We will hold a weekly online discussion under the “Discussion” tab on the class ELMS site. Discussions will open on Tuesday and stay open for a week. The topic for discussion will center around the in-class presentations made that week. In order to encourage discussion, each week students must make at least
two posts, at least one of which must respond to another student’s post. You will be graded on participation, content, and evidence of some research on background and facts.

**Grading Process:** At the end of the term, every student will have a numerical course grade between 0 and 100. I will decide upon the numerical cutoffs between various letter grades based on my professional judgement. I will consider students’ performance relative to the class. I will also consider absolute standards of professional competence. Highly competent students will get A’s. Barely competent students will get B’s. Incompetent students will get B-‘s or worse. The cutoffs that I use will respect the ordinal ranking of numerical course grades. No student with a given numerical course grade will receive a lower letter grade than someone else with a lower numerical course grade.

**Course Website:** Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course’s ELMS/Canvas website. You can access the site via www.elms.umd.edu. You will need to use your University of Maryland “directory ID” and password.

**Email:** The University has adopted email as the primary means of communication outside the classroom, and I will use it to inform you of important announcements. Students are responsible for updating their current email address via http://www.registrar.umd.edu/current/ (Under the first major heading of “Online Transactions” there is a link to “Update Contact Information”.)

**Contact Hours:** Three credit master’s-level courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses’ 12 weekly meetings only satisfy 80% of the university’s contact requirement. The other 20% is satisfied by weekly mandatory and graded online contact. In principle, the contact hours requirement could be satisfied by scheduling 3 additional 150-minute meetings per term, or 6 additional 75-minute meetings, or 10 additional 45-minute meetings. But in practice the contact hours requirement is satisfied by the weekly online discussions. The weekly online discussions are a more flexible way to ensure that our program’s courses in DC provide the same level of student-instructor contact as the traditional 15-week face-to-face version of the same course when it is taught on campus in College Park.

**Work Load:** Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time. The courses in our DC program are 12-week courses that cover all the same material as a traditional semester-long 3-credit course (15 weeks). The compressed schedule makes it possible to complete our degree in just 15 months if you take 2 courses each term. But the compressed schedule also implies an accelerated pace with an average of 25% more work per week in a given course (15/12 = 1.25). The normal full-time load in a master’s program is 3 courses per semester, or 6 courses per year. The weekly work load when taking 2 of our DC courses per term is equivalent to the load from 2.5 “normal” 15-week courses - so 2.5/3.0=83% of a full-time load. Students who take 2 courses per quarter in our program complete 8 courses per year. So over the course of a year, taking 2 courses per quarter in our DC program is equivalent to 133% of a full-time load (8/6 = 1.33).

**Academic Integrity:** The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards applicable to all undergraduate and graduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information see www.studenthonorcouncil.umd.edu.

**Student Conduct:** Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility to one another or myself will be referred to the Office of Student Conduct. You are expected to adhere to the Code of Student Conduct.

**Excused Absences:** The University of Maryland’s policy on excused absences is posted here: http://www.president.umd.edu/administration/policies/section-v-student-affairs/v-100g

Please note:
If you miss any class meetings for any reason, you are still responsible for all material covered during the meeting you missed. It is your responsibility – not the instructor’s – to get yourself caught up in the course. Instructors routinely facilitate things by posting lecture notes, etc.

If you need to miss an exam or other graded course requirement because of illness, injury, or some other emergency: Follow doctor’s orders and get documentation. Get in touch with the instructor as soon as you’re able – preferably prior to missing the exam or deadline. Communicate with the instructor to make up the course requirement as soon as possible. You are entitled to recover before you make up the course requirement, but you are not entitled to extra days to study beyond the time the doctor’s note says you’re incapacitated. If you are incapacitated for more than a week or so beyond the end of the term, your grade in the course will be an “Incomplete”. In such cases you must negotiate a plan with your instructor for completing the course requirements. Once you make up the course requirement the instructor will change your “I” to the appropriate letter grade.

**School Closings and Delays:** Information regarding official University closing and delays can be found on the campus website and the snow phone line: (301) 405-SNOW (405-7669). Since our program is an evening program in downtown Washington, DC, rather than a day program in College Park, we do not always cancel classes on the same days as the College Park campus. The program director will always announce cancellation information to the program as an announcement on the program’s ELMS/Canvas site. This will generally be done by 1:00 p.m. on days when weather or other factors are an issue.

**UMD Counseling Center:** Sometimes students experience academic, personal and/or emotional distress. The UMD Counseling Center in Shoemaker Hall provides comprehensive support services that promote personal, social, and academic success. The cost of these services is covered by the fees you already paid when you registered for classes, and there is no additional charge if you use the services. Proactively explore the range of services available, including the Counseling Service, Accessibility and Disability Service, Learning Assistance Service, and the Testing Office, all described at [http://www.counseling.umd.edu/](http://www.counseling.umd.edu/)

**Students with Disabilities:** The University of Maryland does not discriminate based on differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, or national origin. Reasonable accommodations will be arranged for students with documented disabilities. Students who have an accommodations letter from the Accessibility and Disability Service (ADS) should meet with me during the first week of the term to discuss and plan for the implementation of your accommodations. If you require reasonable accommodations but have not yet registered with ADS, please contact the Accessibility and Disability Service at 301-314-7682 or adsfrontdesk@umd.edu.

**Academic Progress:** The UMD Graduate School requires that students maintain a GPA of at least 3.0. Students whose cumulative GPA falls below 3.0 will be placed on academic probation by the graduate school. Students on academic probation must ask the program’s director to petition the graduate school if they want to remain enrolled in the program. The petition must include a plan for getting the student’s GPA up to at least 3.0. Students who do not live up to their plan can have their enrollment in the program terminated without having earned the degree. Note: a grade of "B" corresponds to a GPA of 3.0. A grade of "B-" corresponds to a GPA of 2.7.

**Building Access:** The door to the building at 1400 16th Street is unlocked on weekdays until 7:00 PM. Students who arrive after 7:00 PM or on weekends will find the door locked. The building’s concierge station has been moved in the recent lobby renovation, so the concierge can no longer easily see when someone is at the door. You can call the phone on the security guard’s desk by dialing (202) 328-5158. If the security guard is off duty or happens to be away from his or her desk when you arrive, you can always also go around to the other door at 1616 P Street and pick up the black phone to the right of that door. You will be connected to the company that handles security for our building. If you tell them you’re with the University of Maryland (suite 140 in 1400 16th Street), they should ask you for a password. When you tell them the password, they will buzz you in. You can get the password from the program coordinator, the TAs, or the program director. Please note: the building security staff are not able to buzz you in at the 1400 16th Street door. You have to go around to the 1616 P Street door to be buzzed in.

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**Schedule of Topics**

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<table>
<thead>
<tr>
<th>date</th>
<th>weekday</th>
<th>Topic</th>
<th>chapters</th>
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<tbody>
<tr>
<td>11/26/2019</td>
<td>Tue</td>
<td>Introduction, Python Basics, Measurement</td>
<td>2</td>
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<tr>
<td>12/3/2019</td>
<td>Tue</td>
<td>National Income and Product Accounts, Prices</td>
<td>3, 4</td>
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<td>12/10/2019</td>
<td>Tue</td>
<td>Trends and Cycles</td>
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<tr>
<td>12/17/2019</td>
<td>Tue</td>
<td>The Financial System, Interest Rates &amp; Balance of Payments</td>
<td>6, 7, 8</td>
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<tr>
<td>12/21/2019</td>
<td>Sat</td>
<td>Aggregate Production and Growth</td>
<td>9, 10</td>
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<tr>
<td>12/24/2019</td>
<td>Tue</td>
<td>No Class</td>
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<tr>
<td>12/31/2019</td>
<td>Tue</td>
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<tr>
<td>1/7/2020</td>
<td>Tue</td>
<td>Review, Midterm Exam 1</td>
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<tr>
<td>1/14/2020</td>
<td>Tue</td>
<td>Labor Market and Unemployment</td>
<td>11, 12</td>
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<tr>
<td>1/21/2020</td>
<td>Tue</td>
<td>Aggregate Demand and Its Components</td>
<td>notes</td>
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<td>1/28/2020</td>
<td>Tue</td>
<td>Macroeconomic Dynamics, Growth Models</td>
<td>notes</td>
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<td>2/4/2020</td>
<td>Tue</td>
<td>DSGE Models</td>
<td>notes</td>
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<td>2/11/2020</td>
<td>Tue</td>
<td>Monetary &amp; Fiscal Policy</td>
<td>16, 17</td>
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<tr>
<td>2/18/2020</td>
<td>Tue</td>
<td>Review, Midterm Exam 2</td>
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